

2024 International Conference on TVET Excellence & Development (ICTeD 2024)

**Melaka, Malaysia
16-17 December 2024**



**IEEE Catalog Number: CFP24VE1-POD
ISBN: 979-8-3315-1642-0**

**Copyright © 2024 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP24VE1-POD
ISBN (Print-On-Demand):	979-8-3315-1642-0
ISBN (Online):	979-8-3315-1641-3

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

Enhancing Personalized Learning in Engineering Education Through TUAH Digital Portfolio: A Framework for Equitable TVET in Malaysia	1
<i>Nurulfajar Abd Manap, Azma Putra, Zakiah Abd Halim, Anis Suhaila Mohd Zain</i>	
Enhanced Phonocardiogram Analysis Through Troponin Test for the Myocardial Injury Detection.....	7
<i>Ira Puspasari, Tati L. R. Mengko, Agung W. Setiawan, Miftah Pramudyo, Nobuo Watanabe, Trio Adiono</i>	
A Systematic Literature Review on Recent Peer Code Review Implementation in Education	13
<i>Muhammad Huzaifah Ismail, Shahrinaz Ismail, Muhammad Nur Affendy Nor'A, Jeffery Jeselee Sijore, Ainul Hazmin A Hamid</i>	
Integrating Computational Thinking Skills in Secondary Education: A Feasibility Study	20
<i>Khadijah Wan Mohd Ghazali, Mashanum Osman, Zuraini Othman, Masitah Seikh Omar</i>	
A Review of Educational Value of MMOEG in Fostering Critical Thinking Skills Through Gameplay	26
<i>Nuraziera Mohd Hatta, Ibrahim Ahmad, Mohd Hafiz Zakaria, Nazreen Abdullasim, Heru Astikasari Setya Murti</i>	
Fostering Problem-Solving Skills: A STEAM-Oriented Framework for Engineering and Non-Engineering Majors	32
<i>Omar J. Alkhatib, Meriem Rahmani</i>	
Simventure: Utilizing First Person Player Technology for Career Guidance in High Schools.....	38
<i>Nurul Nadia Binti Norazri, Ikmal Faiq Albakri Mustafa Albakri, Mohd Khalid Mokhtar, Farhan Mohamed, Vei Siang Chan, Muhammad Nur Affendy Nor 'A</i>	
Guess the Learning Type: A Micro-Designed Gamified Approach to Machine Learning Types.....	44
<i>Nur Zareen Zulkarnain, Sharifah Sakinah Syed Ahmad</i>	
Structured Database Design for iDSS-ProLean a Decision Support System for Lean Semiconductor Manufacturing	49
<i>Nur Ain Qistina Muhammad Shafee, Effendi Mohamad, Mohd Soufhwhee Abd Rahman, Nor Asmaa Alyaa Nor Azlan, Mohd Hamdi Abd Shukor, Rudi Nurdiansyah</i>	
Employers' Perspectives on Skills Falling Short, HEIs' Education System, and Graduates' Attributes.....	54
<i>Hasan Saleh, Nurul Asmida Abdul Wahab</i>	
Enhancing TVET Graduate Employability Through AI Integration: An AHP Analysis in the End-Of-Life Vehicle (ELV) Sector.....	59
<i>Ahmad Fadzil Bin Mohamad, Mohd Khairul Nizam Bin Suhaimin, Suriati Binti Akmal, Hazli Rafis Bin Abdul Rahim, Wan Hasrulnizzam Bin Wan Mahmood, Hazrul Syakirin Bin Hashim</i>	
Comparative Analysis of TVET Instructor Competency Standards: Insights from Malaysia and Beyond	65
<i>Maznizam Bin Mansor, Zulkifflee Bin Mohamed, Mohammed Rezasudin Bin Basir Khan, Mohd Nor Azlan Bin Mohamed Sidek</i>	

Sustainable Skills Development in Electric Vehicle Technology: TVET Institutions as Catalysts for Global Advancement	70
<i>Zhai Qianyu, Aede Hatib Musta 'Amal, Siewching Yee, Temitope Teniola Onileowo, Ikenna Ignatius George</i>	
The Impact of Internships on Diploma of Chemical Engineering Students: A Case Study of Politeknik Tun Syed Nasir Syed Ismail	76
<i>Nurul Suhada Ismail, Nur Aina Makhtarudin, Tengku Fattnin Alya ' Tengku Kamaruzaman</i>	
ALMUSTRA: An Augmented Reality Application for Introducing Traditional Musical Instruments	81
<i>Elvira Resti Widayarsi, Evangs Mailoa</i>	
Analysis of Student Engagement Towards Learning Materials in Learning Management System: A Case Study	86
<i>Zarina Mohd Noh, Norhidayah Mohamad Yatim, Wira Hidayat Mohd Saad, Rostam Affendi Hamzah, Syafeeza Ahmad Radzi, Noor Hafizah Abdul Aziz</i>	
Applying TOPSIS Algorithm for Odour Classification Model.....	92
<i>M. Shahkhir Mozamir, Asniyani Nur Haidar Binti Abdullah, M Fuad Abdullah, M Faizan Jamaluddin</i>	
Building Strong Foundations in C++: Scaffolded Exercises with CodeRunner	98
<i>Maslita Abd Aziz, Ahmad Shaarizan Shaarani, Safiza Suhana Kamal Baharin, Zahriah Othman, Nor Hafeizah Hassan</i>	
SPARC: A Framework for Enhancing Early Childhood Reading Through Augmented Reality, Conversational AI, and IDC Theory	103
<i>Masood Azhar, Hew Soon Hin, Neo Tse Kian</i>	
Enhancing TVET Blended Learning Student Engagement Through Geo-Attendance	107
<i>Safiza Suhana Kamal Baharin, Maslita Abd Aziz, Zahriah Othman, Nor Mas Aina Md. Bohari</i>	
Teaching Factory 2.0: The New Approach to Teaching Factory Concept	112
<i>Hambali Bin Boejang, Syarul Azwan, Amir Hamzah Bin Abdul Rasib, Umi Hayati Binti Ahmad, Lailatul Harina Binti Paijan, Muhammad Zahir Bin Hassan</i>	
A Curriculum Development Framework for Work Integrated Learning and Apprenticeships in Higher Education.....	118
<i>Tamilselvan Mahalingam, Ahmed Ghonim, Minerva Bunagan</i>	
FSM Design Techniques for Stable State Transitions Under Fast Clocks: A Pedagogical Approach.....	124
<i>Fajar Suryawan</i>	
The Gamification Effect of Simplifying Complex Mathematics and Statistics Concepts: A Case Study of Online Game-Based Quiz Tools.....	130
<i>Noureen Talpur, Norshakirah Aziz, Shazia Khatoon, Mohd Hafizul Afifi Abdullah, Shoaib-Ul-Hassan, Abdullateef Oluwagbemiga Balogun</i>	
Bridging the Virtual and Hands-On Laboratories for Small-Signal Amplifier Circuits.....	136
<i>Wahidah Abd Halim, Dinesh Subanthiran, Siti Azura Ahmad Tarusan, Auzani Jidin, Muhammad Zaim Mat Rosdi, Muhammad Rabani Mohd Ali</i>	
Project-Based Learning Implementation in Distance Learning.....	142
<i>Shiyrah Theosebes Sela, Joice Yulinda Luke</i>	
Revolutionizing TVET Education: Tailored Methods for Tourism and Hospitality Skills	146
<i>Maria Theresa Verian</i>	

3D Model AI Reconstruction Nusantara Building Based on Lalitavistara Borobudur Relief	151
<i>Ferric Limano, Lintang Widyokusumo, Sri Rachmayanti, Budsakayt Intarapasan</i>	
Unveiling the Convenience and Drawbacks of Artificial Intelligence (AI) in Education	157
<i>Rojen Lyneth T. Ampong, Leo L. Codilla, Theress Joy Romero, Princess Dianne P. Caparo</i>	
Readiness and Challenges Faced by Elementary Public School Teachers on Information and Communication Technology (ICT) Integration in the Philippines	162
<i>Kate Collien Agonas, Leo L. Codilla, Rea Goloran, Kristine Mae Canomay</i>	
The Effectiveness of Integrating Information and Communication Technology (ICT) in the 21st- Century Classroom	166
<i>Lyra G. Baldon, Leo L. Codilla</i>	
Development of ProSkiND Problem-Solving Framework-Based on Non-Digital Games for Preschool Children	171
<i>Khadijah Anis, Alias Masek, Muhammad Nurtanto, Nur Kholifah, Nurhidayati, Mustofa Abi Hamid</i>	
Technological Support to Foster Students' Learning Experience in Electrical Measurement Class: A Mobile Learning-Based Hypermedia Approach	177
<i>Mustofa Abi Hamid, Muhammad Nurtanto, Desmira Desmira, Dedi Setiawan, Muhammad Hakiki, Radinal Fadli</i>	
Exploring the Adoption of IoT in Malaysian SMEs: Drivers, Barriers, and Strategic Insights	183
<i>S. Saat, M. S. M. Saad, Y. C. Wong, A. F. Othman, M. A. Othman, Z. H. Zaini, M. Othman, Z. Salakin</i>	
Understanding the Definitions of Microcredentials in Higher Education: Systematic Literature Review	188
<i>Wihendro, Harco Leslie Hendric Spits Warnars, Harjanto Prabowo, Sfenrianto</i>	
Exploring Mathematics Teachers' Behavioral Intentions to Use Artificial Intelligence Through Structural Equation Modeling	195
<i>Evelyn B. Ballenas, Maris T. Lasco</i>	
The Perspective of Digital Burnout from Junior High School Teachers in Yogyakarta	201
<i>Dian Hidayati, Mohammad Luthfi Imama, Hilhamsyah, Anisatul Maysaroh</i>	
Rasch Analysis of Pre-Service Teachers' Competency Assessment in Technology for Teaching and Learning: Implications for Mathematics Instruction	207
<i>Eubert R. Tagupa, Alvic A. Arnado</i>	
Emergency Sound Classification and Visual Alert System for Enhanced Situational Awareness	213
<i>Riza Kamelia, Hendra Kusuma</i>	
Load Testing Method for Measure the Capability of MOOC Platform to Handle Massive User	219
<i>Andang Saefullah, Ridi Ferdiana, Bimo Sunarfri Hantono</i>	
Leveraging Machine Learning for Strategic Business Gains in the Healthcare Sector	225
<i>Mohammad Abu Sufian, S M Tamim Hossain Rimon, Ahmed Inan Mosaddeque, Zenith Matin Guria, Niaz Morshed, Asif Ahamed</i>	
Transforming AI and Quantum Computing to Streamline Business Supply Chains in Aerospace and Education	231
<i>Ahmed Inan Mosaddeque, Zenith Matin Guria, Niaz Morshed, Mohammad Abu Sufian, Asif Ahamed, S M Tamim Hossain Rimon</i>	

Comparative Study of AI-Driven Ed-Tech Applications: Insights from Google Play Store Data	237
<i>Ranita Ganguly, Nagaraju Dasari</i>	
Enhancing Contextual Understanding in Chatbots and NLP	244
<i>Jamshaid Iqbal Janjua, Muhammad Irfan, Tahir Abbas, Anum Ihsan, Bahadur Ali</i>	
Boosting Physics Engagement in the Philippine Countryside: The Impact of Digital Modules on Understanding of Projectile Motion	250
<i>Edwin James B. Andoy, Alvie Jean G. Rebuera</i>	
Enhancing Production Capacity with Overall Equipment Effectiveness in Manufacturing Industry	256
<i>A. H. Abdul Rasib, F. A. Shablee, H. Boejang, Z. F. Mohamad Rafaai</i>	
The Research Landscape and Emerging Trends in Technical and Vocational Education and Training for Sustainability (1998–2023).....	261
<i>David Kongpiwatana Narong</i>	
Service Learning Practices in Community Lab: A Study in Malaysian Institutions of Higher Learning	267
<i>Mahyuddin Arsat, Yushaireen Syafiq Yusof, Nornazira Suhairom, Nur Husna Abd Wahid, Ahmad Nabil Md. Nasir, Muhammad Khair Noordin, Sharifah Maryam Syed Azman</i>	
EV Charging Infrastructure Regulatory Compliance: TVET Relevance and Recommendations.....	273
<i>Adam Junid, Azalan Sulaiman, Mohd Jasmer Sathilan, Muhammad Rizal Faizal Ghani, Muhammad Nazim Hakimi Ghani, Mohd Rosnizam Zailan</i>	
TVET for All: Fostering Social Equity Through Inclusive Skills Education	284
<i>Wai Yie Leong</i>	
Enhancing Practical Skills Training Through Virtual Reality in TVET Education	289
<i>Wai Yie Leong</i>	
Bridging the Gender Gap in Technical and Vocational Education and Training: A Global Comparative Study of Policy, Technology, and Gender Inclusivity	294
<i>Roberto Gomez Tobias, Jorge Alvarez, Javier Armando Gonzalez Lozano, Luis Vicente Cabeza Llanos</i>	
Implications of Technical and Vocational Education and Training (TVET) on Economic Development and Employment Prospects in Palestine.....	300
<i>Mahmoud Mohamed Nazzal, Sara Salih Mohamed Ahmed, Mohammed A. S. Doheir, Suriati Binti Akmal, Ahmad Zaki Bin Bakar, Su'Aidi Bin Dato'Safei, Noorayisahbe Binti Mohd Yaacob</i>	

Author Index